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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/045,024 | 01/15/2002 | Lawrence Sarresh | 2380-442 | 7871 |

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| EXAMINER | |
|---|---|
| GELIN, JEAN ALLAND | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2681 | |

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/045,024 | SARRESH ET AL. | |
| | Examiner | Art Unit | |
| | Jean A Gelin | 2681 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *15 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,9-11,15-18,24-27,30, 31 and 35-43* is/are rejected.

7)☒ Claim(s) *6-8,12-14,19-23,28,29 and 32-34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7, 8*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 9, 11, 15-18, 24, 26, 27, 30, 35-38, 40-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Meszko (US 6,327,299).

Regarding claims 1, 17, 26, Meszko teaches a method of operating a base station included in a radio access network of a telecommunications system, the method comprising: obtaining, respectively from two diversity antennas (60 and 62) for a cell/carrier utilized in a sector served by the base station (fig. 1), two branches of a radio link signal (26 and 28) (col. 6, lines 25-36); routing the two branches (26 and 28) of the radio link signal through two respective branches of signal processing hardware (56, 58) either prior to application of the two branches of the radio link signal to the respective two diversity antennas or subsequent to receipt of the two branches of the radio link signal from the respective two diversity antennas (col. 3, line 11 to col. 4, line ); measuring a delay difference between the two branches of the radio link signal (i.e., processor 54 produces an output proportional to a difference in delay between the first and second radio frequency diversity signal, col. 5, lines 23-65, col. 8, lines 1-44).

Regarding claims 2, 18, Meszko teaches using a rake receiver for measuring the delay difference between the two branches of the radio link signal (i.e. measurer 70, col. 4, lines 15-46).

Regarding claims 3, 5, 16, 27, Meszko teaches using the delay difference to determine a delay alignment adjustment value for compensating for the delay difference between the two branches of the radio link signal (col. 3, lines 41-51).

Regarding claims 4, 15, Meszko teaches wherein the radio link signal is an uplink signal to the radio base station, and further comprising using a rake receiver at the base station for measuring the delay difference between the two branches of the radio link signal (col. 4, lines 15-46).

Regarding claim 9, Meszko teaches applying the delay alignment adjustment value to one of the two branches of signal processing hardware to compensate for the delay difference (i.e., processor 54 controls delay circuits 50 and 52, col. 5, lines 23-53).

Regarding claim 11, Meszko teaches wherein the user equipment unit is a test user equipment unit, which is situated essentially equidistantly between the two diversity antennas (col. 4, lines 30-46).

Regarding claims 24, 30, and 42, Meszko teaches wherein the delay alignment adjustment value is applied to one of the two branches of signal processing hardware (col. 7, line 42 to col. 8, line 4).

Regarding claim 35, Meszko teaches a radio access network of a telecommunications system comprising: a base station (fig. 1) having two diversity antennas (60 and 62) for a cell/carrier utilized in a sector served by the base station; a

test user equipment unit situated essentially equidistantly with respect to the two diversity antennas, two branches of a radio link signal being transmitted between the test user equipment unit and the two diversity antennas (i.e., measurer 70 having an antenna 80 is placed at a location equidistant from antennas 60 and 62 so that delays are equal, col. 4, lines 35-46); the base station further comprising two branches of signal processing hardware which respectively process the two branches of the radio link signal (branches 26 and 28); and wherein a rake receiver measures a delay difference between the two branches of the radio link signal (col. 4, lines 14-29, col. 5, lines 25-53, col. 6, lines 26-61).

Regarding claim 36, Meszko teaches wherein the rake receiver is situated at the base station (i.e., fig. 1 has components which are equivalent to base station).

Regarding claim 37, Meszko teaches a processor, which uses the delay difference to determine a delay alignment adjustment value (i.e., a processor within the measurer 70, col. 5, lines 23-65, col. 6, lines 20-25).

Regarding claim 38, Meszko teaches wherein the delay alignment adjustment value is applied to one of the two branches of signal processing hardware (i.e., controlling delays 50 and 52, col. 5, lines 38-44).

Regarding claim 40, Meszko teaches wherein the rake receiver is situated at the test user equipment unit (col. 4, lines 30-46).

Regarding claim 41, Meszko teaches a processor at the base station, which uses the delay difference to determine a delay alignment adjustment value (col. 5, lines 24-53).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 10, 25, 31, 39, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meszko in view of Schilling et al. (US 2001/0024466 A1).

Regarding claims 10, 25, 31, 39, and 43, Meszko teaches all the limitations above except applying the delay alignment adjustment value to a delay alignment buffer included in the one of the two branches of signal processing hardware to compensate for the delay difference.

However, the preceding limitation is known in the art of communications. Schilling teaches a storing for storing previous and present value received from a first and a second antenna wherein the first antenna is coupled to delay device such as a shift register, the received plurality of spread spectrum signals is delayed with respect to the plurality of phased versions of the spread spectrum signals (sections 0012, 0013, 0031-0033). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to implement the technique of Schilling within the system of Meszko in order to use the storing means as shift register for performing the function storing the previous-magnitude value and the present-magnitude value for comparison; thus in response to the comparison, antenna beams are steered towards components of the spread spectrum signal with a highest combined magnitude.

***Allowable Subject Matter***

5. Claims 6-8, 12-14, 19-23, 28-29, and 32-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

| | | |
|---|---|---|
| Vogel et al. | US 5,613,219 A | 03/18/1997 |
| Heinila | US 6,799,055 B2 | 09/28/2004 |
| Shoki et al. | US 6,480,526 B1 | 11/12/2002 |
| Sudo et al. | US 6,625,202 B1 | 09/23/2003 |
| Yamamoto et al. | US 6,700,865 B1 | 03/02/2004 |

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean A Gelin whose telephone number is (703) 305-4847. The examiner can normally be reached on 9:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JEAN GELIN
PRIMARY EXAMINER

JGelin
October 13, 2004